IN THE CLAIMS:

1. (currently amended) An optical waveguide sensor comprising:

a housing, the housing having an interior and exterior surface, the exterior surface having at least two layers, ~~the first layer comprised of a low index of refraction material and the second layer comprised of a highly reflective material~~;

a first optical fiber in communication with the housing;

a second optical fiber in communication with the housing; and

means for detecting the change in the intensity of light when light is passed through the housing, reflected and refracted within the housing and received by the second optical fiber, the optical wave guide sensor being capable of measuring up to at least 2000 με when the housing is stressed.

2. (original) The optical waveguide sensor according to claim 1 wherein the housing has first and second opposed ends, the first optical fiber in communication with the first end and the second optical fiber in communication with the second end.

3. (original) The optical waveguide sensor according to claim 1 wherein the first layer is comprised of polyimide.

4. (original) The optical waveguide sensor according to claim 1 or 3 wherein the second layer is comprised of aluminum.

5. (original) The optical waveguide sensor according to claim 1 wherein the first layer is selected from the group consisting of polyimide, silicon and germanium.

6. (original) The optical waveguide sensor according to claim 1 or 5 wherein the second layer is selected from the group consisting of aluminum, silver, platinum and palladium.

7. (original) The optical waveguide sensor according to claim 1 wherein the sensor is insensitive to temperatures in the range of about –20 to 50° C.

8. (original) The optical waveguide sensor according to claim 1 wherein the optical fibers are multimode.

9. (original) The optical waveguide sensor according to claim 1 wherein the housing is comprised of glass.

10. (original) The optical waveguide sensor according to claim 9 wherein the housing is cylindrical.

11. (original) The optical waveguide sensor according to claim 10 wherein the housing has dimensions of 0.5mm inside diameter x 1mm outside diameter x 100mm long.

12. (original) The optical waveguide sensor according to claim 11 wherein the optical waveguide sensor has a gage factor of 490.

13. (new) An optical wave guide sensor comprising:

a housing, the housing having an interior and an exterior surface, the exterior surface having at least one layer;

a first optical fiber in communication with the housing;

a second optical fiber in communication with the housing; and

means for detecting the change in the intensity of light when the light is passed through the first optical fiber, into the housing, reflected and refracted within the housing and received by the second optical fiber, the optical wave guide sensor being capable of measuring up to at least 2000 με when the housing is stressed.

14. (new) The optical waveguide sensor according to claim 13 wherein the layer is selected from the group consisting of polyimide, indium tin oxide, zinc oxide, silicon and germanium.

15. (new) The optical waveguide sensor according to claim 14 wherein the layer is comprised of polyimide.

16. (new) The optical waveguide sensor according to claim 15 wherein the housing is comprised of glass.

17. (new) The optical waveguide sensor according to claim 16 wherein the thickness of the layer is within the range of between 20 to 28 μm.

18. (new) The optical waveguide sensor according to claim 17 wherein the housing is cylindrical and has an inside diameter within the range of between 0.518 and 0.542mm and a thickness of within the range of between 0.073 and 0.097 μm.

19. (new) The optical waveguide sensor according to claim 18 wherein the optical waveguide sensor is capable of measuring up to at least 5000 με when the housing is stressed.

20. (new) An optical wave guide which comprises:

a housing, the housing having an interior and an exterior surface, the exterior surface having at least one layer, the housing having first and second open ends;

a first optical fiber in communication with the first open end; and

a second optical fiber in communication with the second end, wherein strain on the housing of at least 2000 με is capable of being measured when the change in the intensity of light exiting the second open end is detected subsequent to the passage of light of a known intensity through the first optical fiber and the housing, the change in the intensity of light corresponding to the strain on the housing.

IN THE TITLE

Please delete the title and insert therefor the following:

"Intensity-based Optical Waveguide Sensor"